

## ABSTRACT OF THE DISCLOSURE

A positioning apparatus for determining a present position of a mobile station by using radio waves coming from a plurality of base stations arranged within a communication area is provided. The positioning apparatus receives the radio waves coming from the plurality of base stations to generate reception signals corresponding to the respective radio waves, and determines propagation ranges of the radio waves coming from the respective base stations. The apparatus further derives propagation ranges of direct waves coming from the respective base stations from the determined propagation ranges. Then, the present position of the mobile station is determined by performing positioning operation using the derived propagation ranges of the direct waves.